

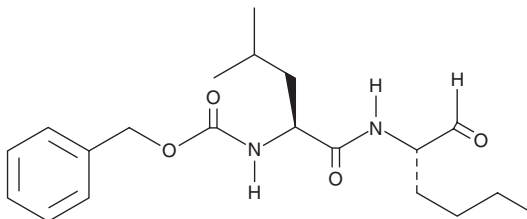
# PRODUCT INFORMATION



## Calpeptin

Item No. 14593

**CAS Registry No.:** 117591-20-5  
**Formal Name:** N-[(1S)-1-[[[(1S)-1-formylpentyl]amino]carbonyl]-3-methylbutyl]-carbamic acid, phenylmethyl ester  
**MF:** C<sub>20</sub>H<sub>30</sub>N<sub>2</sub>O<sub>4</sub>  
**FW:** 362.5  
**Purity:** ≥90%  
**Supplied as:** A crystalline solid  
**Storage:** -20°C  
**Stability:** ≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

### Laboratory Procedures

Calpeptin is supplied as a crystalline solid. A stock solution may be made by dissolving the calpeptin in the solvent of choice, which should be purged with an inert gas. Calpeptin is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. The solubility of calpeptin in these solvents is approximately 30 mg/ml.

Calpeptin is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, calpeptin should first be dissolved in ethanol and then diluted with the aqueous buffer of choice. Calpeptin has a solubility of approximately 0.5 mg/ml in a 1:1 solution of ethanol:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

### Description

Calpeptin is a cell-penetrating peptide inhibitor of calpain (IC<sub>50</sub> = 5 nM) which completely abolishes calpain activity in platelets.<sup>1-3</sup> In this way, it inhibits both collagen- and thrombin-induced aggregation of platelets.<sup>4</sup> Calpeptin is also a potent inhibitor of cathepsin K (IC<sub>50</sub> = 0.11 nM).<sup>5</sup>

### References

1. Tsujinaka, T., Kajiwara, Y., Kambayashi, J., *et al.* Synthesis of a new cell penetrating calpain inhibitor (calpeptin). *Biochem. Biophys. Res. Commun.* **153(3)**, 1201-1208 (1988).
2. Iqbal, M., Messina, P.A., Freed, B., *et al.* Subsite requirements for peptide aldehyde inhibitors of human calpain I. *Bioorg. Med. Chem. Lett.* **7(5)**, 539-544 (1997).
3. Leung, D., Abbenante, G., and Fairlie, D.P. Protease inhibitors: Current status and future prospects. *J. Med. Chem.* **43(3)**, 305-341 (2000).
4. Mehdi, S. Cell-penetrating inhibitors of calpain. *Trends Biochem. Sci.* **16(4)**, 150-153 (1991).
5. Catalano, J.G., Deaton, D.N., Long, S.T., *et al.* Design of small molecule ketoamide-based inhibitors of cathepsin K. *Bioorg. Med. Chem. Lett.* **14(3)**, 719-722 (2004).

#### WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

#### SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

#### WARRANTY AND LIMITATION OF REMEDY

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